IN THE CLAIMS:

Claims 1, 5, 9, 16, 22, 23 and 28 have been amended herein. All of the pending claims 1 through 31 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

1. (original) A nucleic acid library comprising:

genes or a functional fragment thereof, said genes or functional fragment thereof essentially capable of, directly or indirectly, modulating an immune response observed with airway hyperresponsiveness and/or bronchoalveolar manifestations of asthma.

2. (original) The nucleic acid library of claim 1 wherein the immune response is up-regulated.

3. (original) The nucleic acid library of claim 1 wherein the immune response is down-regulated.

4. (previously presented) The nucleic acid library of claim 1, wherein said nucleic acid library comprises a nucleic acid essentially equivalent to a signature sequence as shown in Table 1, Table 2 or Table 3.

5. (currently amended) The nucleic acid library of claim 1, wherein at least one of said genes ~~encode~~ encodes a molecule selected from the group consisting of a regulatory molecule, a co-stimulatory molecule, an adhesion molecule, a receptor molecule, a calcium activated chloride channel, a DC-SIGN molecule involved in modulating an immune response, and combinations thereof.

6. (original) A method for modulating an immune response in an individual, the method comprising:

modulating a gene comprising a nucleic acid at least functionally equivalent to a nucleic acid

identifiable by a signature sequence as shown in Table 1, Table 2 or Table 3.

7. (original) The method according to claim 6 wherein said gene modulates a signal transduction cascade pertaining to an immune response in the individual.

8. (original) The method according to claim 7 wherein said signal transduction cascade modulates the production of cytokines, chemokines, growth factors, or combinations thereof.

9. (currently amended) The method according to claim 6, wherein said gene modulates an action selected from the group consisting of sensory nerve activation, a Th1 mediated immune response, a Th2 mediated immune response, the generation of anti-oxidants, the generation of free radicals, a ~~CD8~~$^{+}$ $\underline{CD8^{+}}$ T-lymphocyte response, or combinations of any thereof.

10. (previously presented) The method according to claim 6, wherein the gene encodes a gene product capable of modulating an immune response.

11. (previously presented) The method according to claim 6, wherein said immune response includes airway hyperresponsiveness and/or bronchoalveolar manifestations of asthma.

12. (previously presented) The method according to claim 6, wherein the gene is modulated by transducing a cell of the individual.

13. (previously presented) A substance capable of modulating a gene, said substance comprising:

a nucleic acid at least functionally equivalent to a nucleic acid identifiable by a signature sequence as shown in Table 1, Table 2 or Table 3.

14. (previously presented) A medicament comprising the substance of claim 13 in a pharmaceutically acceptable form and present in an amount sufficient to produce a therapeutic effect.

15. (original) A method of treating an immune response observed with airway hyperresponsiveness and/or bronchoalveolar manifestations of asthma in a subject, the method comprising
administering the substance of claim 14 to the subject.

16. (currently amended) A process for producing an antagonist against a proteinaceous substance, the process comprising
producing an antagonist to a proteinaceous substance encoded by a nucleic acid at least functionally equivalent to a nucleic acid identifiable by a signature sequence as shown in Table 1, 2 or 3.

17. (original) The process of claim 16 wherein said antagonist is an antibody or functional fragment or functional equivalent thereof.

18. (original) An antagonist directed against a proteinaceous substance derived from a nucleic acid at least functionally equivalent to a nucleic acid identifiable by a signature sequence as shown in Table 1, Table 2 or Table 3.

19. (original) The antagonist of claim 18 comprising an antibody or functional equivalent or functional fragment thereof.

20. (original) A medicament comprising the antagonist of claim 19.

21. (previously presented) A method for treating an undesired immune response observed with airway hyperresponsiveness and/or bronchoalveolar manifestations of asthma in a

subject, said method comprising

administering the antagonist of claim 18 to the subject in a therapeutically effective amount and in a pharmaceutically effective manner.

22. (currently amended) A method for at least in part decreasing at least one symptom in a mammal suffering from an allergy or asthma, said method comprising:

administering to the mammal a substance capable of blocking a product that is expressed from a gene with the signature sequence OtSl-B7 or a product that is expressed from a gene that is an equivalent of a gene with the signature sequence OtSl-B7 ~~in the mammal~~.

23. (currently amended) The method according to claim 22, wherein the ~~OtS1-B7~~ substance is ~~blocked by administration of~~ a proteinaceous substance ~~to the mammal~~.

24. (original) The method according to claim 23, wherein the proteinaceous substance is selected from the group consisting of an antibody, a functional equivalent thereof, a functional fragment thereof, and mixtures thereof.

25. (original) The method according to claim 24, wherein the proteinaceous substance is antibody ERTR9.

26. (previously presented) The method according to claim 22, wherein the at least one symptom is airway hyperreactivity associated with asthma or an elevated level of IgE in the mammal.

27. (previously presented) The method according to claim 22, wherein said mammal is a human.

28. (currently amended) A pharmaceutical composition comprising:

a substance capable of blocking a product that is expressed from a gene with the signature

sequence OtS1-B7 or a product that is expressed from a gene that is an equivalent of a gene with the signature sequence OtSl-B7, and

a pharmaceutical acceptable carrier and/or diluent.

29. (original) The pharmaceutical composition of claim 28, wherein the substance is a proteinaceous substance.

30. (original) The pharmaceutical composition of claim 29, wherein the proteinaceous substance is an antibody or functional fragment thereof.

31. (original) The pharmaceutical composition of claim 30, wherein the proteinaceous substance is antibody ERTR9.